

REMARKS

Claims 1-26 are pending. Claims 12-26 are rejected. Claims 1-11 are cancelled without prejudice. Claims 12, 15-18, and 23 have been amended. No new matter has been added.

Restriction Election

Pursuant to the conversation of April 11, 2005, Applicant has elected without traverse to prosecute the invention of claims 12-26. Claims 1-11 have been cancelled without prejudice.

Priority

The rejection denies the pending application's claim for the benefit of priority to U.S. Provisional Application No. 60/243,708, filed October 26, 2000. The rejection suggests that the provisional application fails to enable the claimed invention as required under 35 U.S.C. § 112, ¶ 1. Applicant respectfully disagrees. U.S. Provisional Application No. 60/243,708 fully enables the embodiments of the invention claimed in the present application. The Examiner is respectfully directed to the provisional application and specifically including the section entitled "Test Interface (T/I)" and the section entitled "Test Controller (T/C)."

35 U.S.C. 112, ¶ 2 Rejections

Claims 12-26 are rejected under 35 U.S.C. 112, ¶ 2 as being incomplete for omitting essential elements, such omission amounting to a gap between the elements.

Independent Claims 12, 16, and 23 have been amended. Accordingly, Claims 13-15, 17-18, and 24-26, dependent upon Claims 12, 16, and 23 respectively, are also in condition for allowance. Applicant requests that this rejection be withdrawn.

As to independent Claim 19, Applicant respectfully contends that the stated rejection is inapplicable. Claim 19 as presented does not include a limitation of “communicating over a communication interface,” as recited in the rejection. Further, Claim 19 does not omit any essential elements or steps needed to practice the embodiment of the present invention disclosed therein. Therefore, Claim 19 overcomes the basis for rejection under 35 U.S.C. § 112, ¶ 2. Accordingly, Claims 20-22, dependent upon Claim 19, also overcome the basis for rejection under 35 U.S.C. § 112, ¶ 2.

35 U.S.C. 102(e) Rejections

Claims 12-15 and 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim, U.S. 2002/0116168 A1.

The Examiner is respectfully directed to independent Claim 12, which, as amended, recites that an embodiment of the present invention is directed to:

A method of communicating with a field programmable gate array (FPGA), comprising:

establishing an interface between a host computer and said FPGA; transmitting configuration information over said interface in a first transmission mode to configure the FPGA to function according to a programmed configuration; and

transmitting operation information over said interface in a second transmission mode

Claim 19 recites similar limitations. Claims 13-15 are dependent upon Claim 12, and recite further features of the claimed invention. Claims 20-22 are dependent upon Claim 19, and recite further features of the claimed invention.

Applicant respectfully contends that Kim fails to disclose transmitting configuration information over an interface in a first transmission mode to configure the FPGA to function according to a programmed configuration, as claimed. While the system disclosed in Kim does download a netlist file from a computer to an FPGA, control FPGA 4, that FPGA is not configured to function according to that transmitted file. Rather, FPGA 4 functions as a control, p. 2 para. 36, and target FPGA 1 is eventually configured to function according to the netlist file, see p. 2, para. 41, 43. Therefore, Kim fails to anticipate the embodiments of the present invention recited in Claim 12 (Claim 19 recites similar limitations).

Applicant respectfully asserts that the claimed embodiments of the present invention recited in Claims 12 and 19 are in condition for allowance. Accordingly, Claims 13-15, dependent upon Claim 12, and Claims 20-22, dependent upon Claim 19, overcome the rejection under 35 U.S.C. § 102(e), as they are dependent upon an allowable base claim.

Claims 16-18 and 23-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim, U.S. 2002/0116168 A1.

The Examiner is respectfully directed to independent Claim 16, which, as amended, recites that an embodiment of the present invention is directed to:

A method of communicating with a field programmable gate array (FPGA), comprising:
providing a host computer, coupled to said FPGA by an interface, to configure said FPGA to act as a virtual microcontroller;
executing instructions in synchronization on a microcontroller device and said virtual microcontroller; and
transmitting information between said host computer and said FPGA using said interface.

Claim 23 recites similar limitations. Claims 17-18 are dependent upon Claim 16, and recite further features of the claimed invention. Claims 24-26 are dependent upon Claim 23, and recite further features of the claimed invention.

Applicant respectfully contends that Kim fails to disclose executing instructions in synchronization on a microcontroller device and the virtual microcontroller emulated on the FPGA, as claimed. Applicant has reviewed the cited portions of Kim, and while Kim does discuss clock signals and timing, p. 3 para. 62-68, no where does Kim suggest executing instructions on an emulated microcontroller in synchronization with an actual microcontroller, as claimed. Therefore, Kim fails to anticipate the embodiments of the present invention recited in Claims 16 and 23.

Applicant respectfully asserts that the claimed embodiments of the present invention recited in Claims 16 and 23 are in condition for allowance. Accordingly, Claims 17-18, dependent upon Claim 16, and Claims 24-26, dependent upon Claim 23, overcome the rejection under 35 U.S.C. § 102(e), as they are dependent upon an allowable base claim.

Conclusion

In light of the above-listed amendments and remarks, Applicants respectfully request allowance of the remaining Claims.

The Examiner is urged to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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